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In the recent European literature we find a very interesting article by CHRISTY,[26] in which the author describes a gall previously unrecorded for the British Isles. It reaches its full size of 2–10 inches in length by the middle or end of May. It is a malformation of the pistillate flower and has the appearance of a bunch of moss. The same or a very similar gall due to *Eriophyes triadiatus* Napela is well known on the Continent, but thus far the author has failed to find the mites in the British forms. It appears to be somewhat similar to our American *Acarus aenigma* Walsh.—MEL T. COOK.

Anthocyan pigments in plants.—In an examination of the recent work upon the occurrence and chemical nature of the red, purple, and blue plant pigments known as anthocyans, and yellow pigments designated flavones or flavonols, EVEREST[27] has summarized the present state of our knowledge in a very concise manner. He shows that it has been established that (1) the anthocyans always occur as glucosides, and that some seven of these pigments have now been isolated; (2) the same pigment may be capable of showing a blue, purple, or red color, according as it exists as alkali salt, free pigment, or oxonium salt of some acid; all anthocyans do not, however, form blue alkali salts; (3) the anthocyans may be obtained from flavonols by reduction followed by spontaneous dehydration; and (4) glucosides of flavonols can pass, by reduction, to glucoside anthocyans without intermediate hydrolysis.—GEO. D. FULLER.

Morphology of Gnetum.—THOMPSON[28] has published a preliminary note on the embryo sac conditions in *Gnetum*, several species of which he has investigated. There are no vegetative cells in the male gametophyte, which is the expected contrast with *Ephedra*. Only free nuclei occur in the embryo sac before the pollen tube enters, although cells are formed before fertilization takes place, and one or more eggs are definitely organized. Perhaps the most significant observation is that before fertilization the female gametophyte becomes divided into a large number of multinucleate compartments, all the nuclei in each compartment later uniting to form a fusion nucleus, the endosperm being formed by the division of the fusion nuclei in the lower compartments. This situation is certainly very suggestive of a historical relation to the polar fusion in the embryo sac of angiosperms.—J. M. C.

Origin of stipules.—The much debated question of the origin of stipules has received fresh light from the anatomical studies of SINNOTT and

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[26] CHRISTY, MILLER, Witches brooms on British willows. Jour. Botany **53**: 97–102. 1915.

[27] EVEREST, ARTHUR E., Recent chemical investigations of the anthocyan pigments and their bearing upon the production of these pigments in plants. Jour. Genetics 45:361–367. 191.

[28] THOMPSON, W. P., Preliminary note on the morphology of *Gnetum*. Amer. Jour. Bot. **2**:161. 1915.

BAILEY.[29] The former had already concluded that in the primitive angiosperms the vascular supply of the leaves arose as three strands. It is now found that such leaves are usually provided with stipules, the vascular supply of which is connected with the lateral leaf traces; where there is a single leaf trace at the node, stipules are absent, but if the leaf is supplied by many strands it has a sheathing base. It is further observed that leaves with an entire margin generally have no stipules, even though three strands supply the leaf. Stipules are regarded as an integral part of a leaf, and are homologous with sheaths, ligules, and similar modifications of the base of the petiole.—M. A. CHRYSLER.

Scientific phytopathology.—APPEL presented a paper at the twenty-fifth anniversary celebration of the Missouri Botanical Garden which has just been published,[30] dealing with the scientific aspects of plant pathology. This point of view is rapidly developing in this country, but still needs to be emphasized. As APPEL states, until recent times there were no places where scientific phytopathology was taught. The thesis of the paper is illustrated by the biological work in connection with the smut problem, the culture work in establishing polymorphic life histories and, in many identifications, the experimental work on the air content of host tissues, the work in physiological chemistry, and finally the histological study of the host tissues involved.—J. M. C.

A new genus of Erysiphaceae.—ITO[31] has described a new genus (*Typhulocaeta*) of Erysiphaceae from Japan, parasitic on *Quercus glandulifera*. The asci are several in the globose perithecium, and 8-spored; while the appendages are simple and clavate. The conidia have not been observed. The genus is most closely related to *Erysiphe*, but differs in its appendages.—J. M. C.

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[29] SINNOTT, E. W., and BAILEY, I. W., Investigations on the phylogeny of the angiosperms 3. Nodal anatomy and the morphology of stipules. Am. Jour. Bot. **1**:441–453. *pl. 44.* 1914.

[30] APPEL, O., The relations between scientific botany and phytopathology. Annals Mo. Bot. Gard. **2**:275–285. 1915.

[31] ITO, SEIYA, On *Typhulocaeta*, a new genus of Erysiphaceae. Bot. Mag. Tokyo **29**:15–22. *pl. 1.* 1915.